



Are Semelfactives a basic aspectual category?

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Abstract

This paper is an analysis of Semelfactives, the aspectual class introduced and defined by Smith (1991) as single-stage events occurring very quickly. Examples of Semelfactives include bodily events (e.g. *blink, sneeze, cough*), punctual actions (e.g. *tap, peck, scratch, kick*), internal events such as *flash* etc. Little research has been conducted on this event type class, to the extent that they have sometimes been reduced to Zeno Vendler's Activities or Achievements. This being so, this dissertation aims at showing that Semelfactive predicates can be considered a basic aspectual category. In pursuing that objective, I define some basic concepts which need to be understood before proceeding to the analysis of Semelfactives (mainly related to lexical aspect and aspectual classifications). In addition, the grammatical and semantic characteristics of Activities and Achievements are shown, and linguistic evidence is provided in order to see how they both resemble and differ from Semelfactives in several respects. Moreover, by thoroughly analysing Semelfactives, I argue that they can have an iterative interpretation (i.e. Activity reading), which accounts for their compatibility with durative expressions such as the progressive, with which whereas Activities denote sets of events constructed via S-summing (characteristic of atelic predicates), sets of naturally atomic events are expressed by Semelfactives. I also explain telicity in terms of atomicity (following Rothstein 2004, 2007, 2008), claiming that Semelfactives behave as telic predicates, in the sense that they always denote an event with an inherent endpoint (due to their natural atomic nature), which accounts for the telic reading they obtain when combined with punctual expressions (i.e. *at* adverbials). Although I focus mainly on English Semelfactives, their equivalents in Spanish and Basque are also provided, where despite some minor differences, the same behaviour is observed. I conclude this paper by arguing that differences between the event classes under study are significant enough for Semelfactives to be considered an independent aspectual category with its own features: [-static], [-durative], [+telic].

Keywords: Semelfactives, punctual, telic, lexical aspect

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1. Introduction

Semelfactive verbs, which include bodily events (e.g. *blink, sneeze, cough*), punctual actions (e.g. *tap, peck, scratch, kick*), internal events such as *flash* etc., and which are illustrated in (1), represent the least investigated event type class in English (Katalin, 2011). But, how can Semelfactive predicates be defined? As Filip (2012) points out, “the word *Semelfactive* comes from the Latin word *semel*, ‘a single time’ and *factum* ‘event,’ ‘occurrence’” (p. 727). Moreover, these predicates have sometimes been referred to as being *full-cycle resettables* in Talmy’s (1985) terms, which means that a Semelfactive event can occur over and over again, it is inherently repeatable. In addition, Semelfactives have also been defined by Smith (1991) as single-stage events which are conceptualized as [-static], [-durative], [-telic]:

- (1) English: He **knocked at the door**.
Spanish: Él **llamó a la puerta**.
Basque: Hark **atea jo zuen**.

Semelfactives have certain properties which hamper their categorization into any of Zeno Vendler’s four aspectual classes (i.e. States, Activities, Accomplishments and Achievements), who analyses the value of predicates for the features of dynamicity, durativity and telicity, and whose classification is currently the most widely accepted, influential and relevant for linguistic research (Dowty, 1979; Rothstein, 2004).

Consider the predicate *knock* in (1). Is the predicate denoting a punctual, instantaneous, or temporally extended event? Does it imply any outcome or result, i.e. does it express an event of change? Does it have an inherent terminal point? These are the sort of issues which have been discussed by linguists, attempting to answer the following question: Should Semelfactives be considered a basic aspectual category (as, for instance, Smith (1991) thinks), or should they be placed inside already existing categories such as Activities or Achievements? The aim of the present paper is to address such issues and to show that, actually, Semelfactives constitute an aspectual class of their own, even if they can sometimes be related to already existing ones. To this end, I will first provide an overview of the basic concepts and ideas which need to be understood before proceeding to the analysis of Semelfactive predicates. After that, I will establish a

comparison between Semelfactives and Vendler's Activities, in which I will provide linguistic evidence which will support the claim that the former do not behave in the same way as the latter, though they can bear an activity-reading. Finally, I will argue that though still distinct from Achievements, the grammatical behaviour of Semelfactives shows them to be telic predicates. I will deal with the notions of Boundedness, S-cumulativity and Atomicity, which will help to more accurately explain the notion of *telicity* itself, as well as distinctions between Semelfactives, Activities and Achievements, and which will reaffirm my claim that the event class under consideration constitutes an aspectual category which cannot be reduced to any other.

I will focus mainly on English Semelfactives, but I will also provide their equivalents in Spanish and Basque, where despite some minor differences, the same behaviour is observed.

2. Aspect

Since the discussion in this paper will be revolving around a concrete aspectual class (i.e. Semelfactives), the first point I would like to make sure is that the term *aspect* is correctly understood and that the difference between tense and aspect is clear, so as to avoid misconception. Both tense and aspect reveal "temporal information about a described event or state of affairs" (Kearns, 2011, p. 176). However, as stated by Comrie (1976), unlike tense (situation-external time), which focuses on the relation between the time of a situation and another time-point, aspect (situation-internal time) makes reference to the "internal temporal constituency of a situation" (p. 5). This distinction is illustrated in the following example:

(2) She was cooking when, suddenly, a spider appeared.

Tense locates the situation as a whole in the timeline, in this case in the past; Aspect focuses on the "structural properties of the event itself" (Rothstein, 2004, p. 1), without relating the event to another time-point. In addition, and as explained by Kearns (2011), aspect views the state of affairs either from inside ('in progress') or outside ('as a whole') (p. 176). Therefore, while the predicates *was cooking* and *appeared* have the same past tense, they do not share the same aspectual properties, since, for instance, *was*

cooking denotes a process ongoing for a period of time, whereas *appeared* involves an instantaneous event.

Furthermore, it must be said that the notion of aspect comprises two types: On the one hand, there is morphological aspect, that is, the kind of aspect marked by the morphological forms of the verb (e.g. verbal affixes) (Kearns, 2011). Actually, the sentences *She was cooking* and *a spider appeared* in (2) diverge in morphological aspect: The past progressive (*was cooking*) describes the progress of the event over a period of time, i.e. it has an imperfective aspect, whereas the past simple (*appeared*) treats the event as a single moment in time, i.e. it has a perfective aspect.

The other type of aspect, which is the one I am interested in for this paper, is lexical aspect. According to Kearns (2011), lexical aspect is “a property of a basic uninflected predicate (...) which describes events or states of affairs of different temporal forms” (p. 176). Thus, lexical aspect has nothing to do with morphological features of the verb. In the example above, for instance, lexical aspect would be concerned with issues such as the already mentioned inherent endpoint of the predicate *appeared*, the durativity of the predicate *was reading*, etc. (I will address those specific issues in what follows).

3. Lexical aspect and aspectual classes

As we have seen in the previous lines, not only does the morphology of the verb lead to the distinction between events or situations denoted by the predicate, but the uninflected predicate itself has inherent properties that in a way determine how this state of affairs is internally structured with respect to time.

In short, we could say that lexical aspect “covers distinctions between properties of event-types denoted by verbal expressions, which linguists have tried to capture by classifying verbs into verb classes” (Rothstein, 2004, p. 1), also called *Aktionsarten*. The properties in question are related, in the most general terms, to the presence or lack of some boundary in the lexical structure of the previously mentioned verb classes, a distinction which is acknowledged as telic/atelic distinction (Filip, 2012). The predicates *walk on the beach* and *find the keys*, for instance, differ in that the former can go on and on and it does not imply any result or outcome, whereas the latter does involve an end point and implies a kind of result (i.e. that the keys are no longer lost). The static/dynamic and punctual/durative distinctions are also crucial in making lexical aspectual distinctions, as I will show below.

3.1. Verb classification: Aristotle, Ryle and Kenny

The consideration that some verbs (e.g. *appear*) have an inherent end-point was first presented by Aristotle, who distinguished between *kineseis* ('movements') and *energiai* ('actualities'), a distinction which is similar to the one between Accomplishments and Activities/States, which I will briefly analyze in the following section. Nevertheless, Aristotle's classification has been considered not relevant enough for natural language semantics. For this reason, several Oxford philosophers have contributed to developing Aristotle's classification of verbs in different classes, the two most widely known ones being Gilbert Ryle and Anthony Kenny (Dowty, 1979).

In the first place, and as Dowty (1979) points out, Ryle distinguished between Achievements for the verbs implying a kind of result, and Activities for the verbs implying no outcome. Moreover, he also addressed the issue of the punctuality Achievements usually entail, in contrast to the durativity activities involve (*find the keys* vs. *walk on the beach*, respectively). Anthony Kenny, on his part, made the distinction between Activities and States precise, by means of the use of certain diagnostic tests. For instance, he found that Activities can be perfectly combined with progressive forms, unlike States, which turn out to be anomalous:

- | | | |
|-----|-------------------------------------|-----------------|
| (3) | I am studying Spanish. | <i>Activity</i> |
| | #I am knowing how to speak Spanish. | <i>State</i> |

3.2. Vendler's four aspectual classes

As mentioned, Ryle and Kenny contributed to enhance the knowledge of the different distinctions that could exist between different kinds of *Aktionsarten*. It was Zeno Vendler, though, who first endeavoured to classify verbs into the following four distinct categories, exemplified in (4): States, Activities, Accomplishments and Achievements. Actually, Vendler's classification is currently the most widely accepted, influential and relevant for linguistic research (Dowty, 1979; Rothstein, 2004).

- | | | |
|-----|--------------------|-----------------|
| (4) | I love travelling. | <i>State</i> |
| | John wept. | <i>Activity</i> |

Mary built her own house.	<i>Accomplishment</i>
I recognised the thief.	<i>Achievement</i>

In order to be able to make such a classification, Vendler analysed the value of the predicate for three main features: staticity, durativity and telicity (Comrie, 1976). Diagnostic tests (e.g. combining certain verbs with time adverbials) are used in order to see the reaction of verbs and in order to be able to assign such predicates specific values regarding the already mentioned three features. In fact, I will make use of some of these tests when classifying Semelfactives.

Staticity: The distinction between static and dynamic predicates could be the easiest distinction to identify. In order to explain the contrast between these two predicates, Comrie (1976) refers to the ‘phases’ of eventualities; dynamic predicates, also called events, are composed of distinct phases, whereas the phases of static predicates are identical. Consider (5):

(5) She knows I am drawing a portrait.

The predicate *know* is static, as it is not composed of different phases. On the contrary, *draw* is dynamic, as the phases of which the drawing event is composed vary (e.g. the moment when you start drawing and when you are nearly finishing the portrait will not be the same). Thus, a static predicate could be defined as an eventuality which does not inherently involve change, whereas a state of affairs which actually does would be dynamic. Nevertheless, it must be said that there are cases in which the previous explanation does not work as expected, as is the case of Activities, illustrated in the following example presented by Comrie (1976, p. 49):

(6) The oscilloscope is emitting a pure tone at 300 cycles per second.

Even though the predicate *emit* is dynamic, it does not necessarily involve any kind of change. Consequently, Comrie (1976) reaches a more accurate explanation for this distinction: Unlike static eventualities, dynamic situations can only go on if they are continually exposed to a new input of energy; as reflected in (5), if I stop drawing the portrait, this dynamic situation will no longer continue. By contrast, she cannot intentionally stop the event of knowing that I am drawing a portrait. Put differently, “to

remain in a state requires no effort, whereas to remain in a dynamic situation does require effort” (Comrie, 1976, p. 49).

Durativity: Some predicates are inherently extended in time, that is, they are durative, whereas others are punctual, they do not occur over a period of time, and, hence, have no internal structure (Comrie, 1976).

Telicity (from Greek *telos* = goal, purpose, completion): The last distinction which must be taken into account when classifying verbs in aspectual classes is the one between telic and atelic predicates. Let us begin by defining telicity in Comrie’s (1976) terms: “a telic situation is one that involves a process that leads up to a well-defined terminal point, beyond which the process cannot continue” (p. 45). This fact is illustrated in (7):

- (7) a. John wrote a letter to his father. *Accomplishment*
 b. John is humming. *Activity*

In example (7a), the predicate *wrote a letter* is telic, whereas *is humming* is atelic. The action of writing a letter is inherently temporally bounded. This is not true in *John is humming*, since, as in the case of the predicate *sing* presented by Comrie (1976, p. 44), John can stop humming at any point, and still he will have hummed. Moreover, a fact which needs to be taken into account is that the telicity of a state of affairs is, in many cases, not only conditioned by the verb, but also by its arguments, as shown in (8); even if the predicate is the same in both sentences, (8a) portrays a telic situation, whereas (8b) does not:

- (8) a. He ate three apples. *Accomplishment*
 b. He ate apples. *Activity*

A property introduced by Vendler in order to make a distinction between the two event type classes illustrated in (8) is homogeneity. A predicate is homogeneous if “any part of the process is of the same nature as the whole” (Vendler, 1957, p. 146, cited in Filip, 2012, p. 730). So, Accomplishments such as *He ate three apples in ten minutes* are not homogeneous, since they “proceed toward a terminus which is logically necessary to their being what they are” (Vendler, 1957, p. 146, cited in Filip, 2012, pp. 730,731). If it is true that he ate three apples in ten minutes, it cannot be true that he has eaten three

apples in any period of the whole event run time. Activities such as *He ate apples for ten minutes*, on the other hand, are homogeneous; if it is true that he ate apples for ten minutes, it must be true that he ate apples for every period within those ten minutes (Filip, 2012). As can be seen, Vendler’s homogeneity property is closely related to the sub-interval property. In (8b), the expression that describes the whole event (i.e. *He ate apples*) can be used to describe an event contained in a sub-interval of any period which is a real part of that time. Nevertheless, a sub-interval event of (8a) could be described by *He ate one apple*, or *He ate two apples*, but not by *He ate three apples* (Kearns, 2011). So, durative atelic predicates are homogeneous and have the sub-interval property (8b), whereas telic predicates are non-homogeneous and lack the sub-interval property.

Telic situations have also been commonly defined as tending towards a ‘goal’, within which scholars such as Declerck (1989) include ‘result’ and ‘terminal point’ (cited in Adams, 2001, p. 135).

So, to sum up, and going back to Vendler’s verb classification, he distinguishes four different aspectual classes which show different values regarding staticity, durativity and telicity (the latter will be made more precise in section 4.2. in the present paper) and which I have collected in the following table:

Table 1. Vendler’s four aspectual classes and Semelfactives.

	[+/- static]	[+/- durative]	[+/- telic]
States	+	+	-
Activities	-	+	-
Accomplishments	-	+	+
Achievements	-	-	+
Semelfactives¹	-	-	-

¹ Semelfactives were not included in Vendler’s classification; they were added later by Smith (1991), who conceptualized them as [-static], [-durative], [-telic]. Yet, not all semanticists agree with this classification.

4. Semelfactive predicates

4.1. Durativity and iterativity of Semelfactives

As stated before, Semelfactives have sometimes been related to Vendler's Activity verbs, possessing the features [-static], [+durative], [-telic]. Indeed, according to the scholar Susan Rothstein (2004), every Semelfactive has a homonym which is an Activity, and, thus, Semelfactives are not an independent class. Recall our example of the Activity predicate (7b): *John is humming*. It is a dynamic situation, since it involves something happening, and what is more, the event will only stop if John, in this case, stops humming. Moreover, it is extended in time, as in the John's humming event a period of time is inherently involved. Finally, the situation under consideration is an atelic situation, as it is not inherently temporally bounded and has the sub-interval property. Let us consider now the canonical Semelfactive *blink*, which also denotes a dynamic state of affairs. In Smith's (1991) terms, *blink* involves an instantaneous atelic event. In addition, and as a result of its punctuality, *blink* does not have the sub-interval property. Yet, as will be analyzed in the pages below, Semelfactives are not always conceptualized this way.

4.1.1. Similarities and differences with Vendler's Activities

Following Smith's (1991) conception of Semelfactives as instantaneous events, we would expect them not to be compatible with the progressive (9), durative adverbials such as *for* phrases (10), and verbs of duration such as *stop* (11), typical of atelic predicates. Nevertheless, when applying those diagnostic tests, we find that both Activity and Semelfactive predicates behave in the same way and are felicitous when being combined with those forms:

- (9) a. English: Susan **is coughing**. *Semelfactive*
Spanish: Susan **está tosiendo**.
Basque: Susan **eztulka ari da**.
- b. English: I **am speaking** right now. *Activity*
Spanish: **Estoy hablando** ahora mismo.

Basque: Orain **hitz egiten ari naiz**.

(10) a. English: Susan coughed **for an hour**. *Semelfactive*

Spanish: Susan tosió **durante una hora**.

Basque: Susan **ordubetez** eztulka egon zen.

b. English: I spoke **for an hour**. *Activity*

Spanish: Yo hablé **durante una hora**.

Basque: Nik ordubetez **hitz egin nuen**.

(11) a. English: Susan **stopped coughing**. *Semelfactive*

Spanish: Susan **paró de toser**.

Basque: Susanek **eztulka egiteari utzi egin zion**.

b. English: I **stopped speaking**. *Activity*

Spanish: Yo **paré de hablar**.

Basque: Nik **hitz egiteari utzi egin nion**.

Moreover, Semelfactive predicates behave like Activities in the sense that when put in the progressive, as in (9a) there is, as described by Rothstein (2004), an “activity-type entailment.” (p. 29). That is to say, the progressive *Susan is coughing* entails the perfect form *Susan has coughed*, just in the same way as the sentence *I am speaking right now* in (9b) entails that *I have spoken*. This is not the case with States (they are typically not used in the progressive form), Accomplishments (12) and Achievements (13):

(12) She is destroying the house **does not entail** that she has destroyed the house.

(13) She is dying **does not entail** that she has died.

On the basis of the provided linguistic evidence, it could be argued that Semelfactives are durative, even if they last for a very short period of time. Nevertheless, linguistic evidence also exists, which seems to suggest that, actually, Semelfactive predicates are instantaneous events. Indeed, even though both Semelfactives and Activities are compatible with punctual adverbs, they do not share the same interpretation:

- (14) a. English: Peter knocked at the door **at that moment**. *Semelfactive*
 Spanish: Peter llamó a la puerta **en ese momento**.
 Basque: Peterrek atea jo zuen **momentu horretan**.
- b. English: I sang **at that moment**. *Activity*
 Spanish: Yo canté **en ese momento**.
 Basque: Nik **momentu horretan** abestu nuen.

As shown in (14), the whole of the Semelfactive may have occurred at that moment (i.e. Peter may have given a single knock), whereas the whole process of singing cannot have happened just at that concrete moment in time; it was at that moment when I began to sing.

Yet, it must be said that in everyday speech, when we say that *Peter knocked at the door, coughed, blinked, tapped somebody on the shoulder* etc. the action normally has an iterative interpretation; that is, what we want to communicate is not normally that Peter knocked at the door, coughed, blinked or tapped somebody on the shoulder once, but that there were instances consisting of different knocks, coughs, blinks, or taps. Hence, Semelfactives tend to occur in repetitive sequences, which have been regarded as “multiple-event Activities” (Smith, 1991). Thus, Semelfactive predicates have two different readings: a single-event reading, i.e. a pure Semelfactive reading, and multiple-event activity reading or the uncountable repetition of that event, i.e. an iterative reading (Katalin, 2011). The latter interpretation could be attributed to their resettable nature (i.e. their ability to occur over and over again) and is obtained when combining Semelfactives with duration predicates and adverbials such as the ones in (9) and (10): When we say that Susan is coughing or that Susan coughed for an hour, we obligatorily refer to a reduplication of coughs.

In addition, with durative adverbials such as *slowly*, Semelfactives may have either an ingressive interpretation or a multiple-event interpretation in English (Smith, 1991), as well as in Spanish and Basque. So, the sentences (15a), (15b) and (15c) may mean that Michelle was slow to knock (ingressive reading) or that the span of time between one knock and the remaining ones was long, therefore making the whole event of knocking slow (multiple-event reading):

- (15) a. English: Michelle knocked at the door **slowly**.
 b. Spanish: Michelle llamó a la puerta **lentamente**.
 c. Basque: Michellek atea jo zuen **pixkanaka**.

Moreover, Katalin (2011) asserts that not all Semelfactive predicates have an Activity homonym in English, as the iterative reading is not always allowed. Consequently, not all of them can be used in the progressive form. She presents the punctual verb of perception *cry out* (16) to support this claim. Since Semelfactive verbs cannot be modified with the help of particles, this fact does not apply in Spanish or in Basque.

- (16) *He was **crying out** (in pain) for two hours. (Katalin, 2011, p. 124)

4.1.2. Crosslinguistic variation

In the case of the three languages (English, Spanish and Basque) studied so far, there is no clue in the morphology of the verb which helps us to identify whether the event denoted is durative or instantaneous, that is to say, whether the Semelfactive verb holds a derived Activity reading or not. However, this issue is not uniform across languages. Actually, in languages such as Russian and Hungarian, the two interpretations a Semelfactive verb can bear are formally marked. In the case of Russian, different suffixes are added to the same verbal root. The pure Semelfactive interpretation, characterized as non-iterative and punctual, is achieved by adding the suffix *-nu* to the verb (17a), while the iterative interpretation is marked by the suffix *-at* (17b) (Levin, 2009).

- (17) Russian:
 a. **prygnut** ‘jump once’ (Levin, 2009, p. 11)
 b. **prygat** ‘jump more than once’

In the same way, a distinction exists, morphologically speaking, in Hungarian between whether the verb is making reference to a series of punctual events (18a) (Activity reading) or a single punctual event (18b) (purely Semelfactive reading):

- (18) a. pislant ‘blink once’
köhint ‘cough once’
b. pislog ‘blink more than once’
verbköhög ‘cough more than once’

(Katalin, 2011, p. 125)

As we would expect, purely Semelfactive verbs are not compatible with time adverbial phrases of duration in either of the two languages.

4.2. Semelfactives as telic predicates

In the present section, I will develop a more accurate explanation with regards to the notion of *telicity* and I will argue that Semelfactives can actually be classified as telic predicates (against Smith’s characterization), providing evidence in order to support my claim. Still, I will maintain that they constitute a basic aspectual category which has to be distinguished from Achievements (even if both denote telic situations).

4.2.1. Introducing Vendler’s Achievements

As previously mentioned, Semelfactives have sometimes been related to Vendler’s Achievements, characterized as dynamic, punctual and telic, and illustrated in (19):

- (19) a. She died a few days later.
b. Mary arrived at the airport.

In both (19a) and (19b), the eventualities *died a few days later* and *arrived at the airport* are punctual, as the acts of dying or arriving do not involve a period of time, they happen instantly. Indeed, and as defined by Kearns (2011), “a canonical achievement is the onset of a state” (p. 158). That is to say, and as Riemer (2010) explains, the lead-up to the moment of death might be prolonged (by the use of the progressive *dying*), but someone who is near to death will still be alive. So, the classic Achievement *died* in (19a) portrays the instantaneous moment in which she passes from the state of being alive to the state of being dead; the first instant of her not being alive. The same holds for (19b),

where the first moment of being at the airport is expressed by the predicate; that is, an instantaneous state of affairs. Linguistic evidence supports the idea that Achievements are “over as soon as they begin” (Rothstein, 2004, p. 12): they are anomalous with *for* adverbials² (20a), and other verbs of duration such as *stop* (20b) and *finish* (20c). Moreover, even if they can, in some cases, be used in the progressive form (20d), only the time prior to Mary arriving at the airport is denoted, as mentioned before with the predicate *die*.

(20) English:

- a. #Mary arrived at the airport **for two hours**.
- b. #Mary **stopped arriving** at the airport.
- c. #Mary **finished arriving** at the airport.
- d. Mary **is arriving** at the airport

Spanish:

- a. #María llegó al aeropuerto **durante dos horas**.
- b. #María **dejó de llegar** al aeropuerto.
- c. #María **terminó de llegar** al aeropuerto.
- d. María **está llegando** al aeropuerto.

Basque:

- a. #Maria **bi orduz** aireportura iritsi da.
- b. #Mariak aireportura **iristeari utzi egin zion**.
- c. #Mariak aireportura **iristen bukatu zuen**.
- d. Maria aireportura **iristen ari da**.

In addition, with Achievements, the progressive does not entail the perfective; *he was dying* does not entail that *he died*, for instance. Botne (2003) concludes from this that our conceptualization of Achievements consists of two phases: a durative onset phase, expressed by the progressive, and a punctual nucleus (cited in Riemer, 2010, p. 326). Notice that this is exactly the way we characterize Accomplishments. Nevertheless, they are clearly different: If *I'm building a house* a certain amount of house building has been

² The exceptions being the so-called ‘degree achievements.’

accomplished; if *I'm dying*, however, no amount of dying has taken place. What is more, Achievements are compatible with *in* adverbials:

(21) English:

- a. She noticed a hole in her shoe **in five minutes**.
- b. Mary arrived at the airport **in five minutes**.

Spanish:

- a. Ella vio un agujero su zapato **en cinco minutos**.
- b. María llegó al aeropuerto **en cinco minutos**.

Basque:

- a. Hark **bost minututan** zulo bat ikusi zuen bere zapatan.
- b. Maria **bost minututan** iritsi zen aireportura.

Nonetheless, when modified by *in* phrases (and their corresponding forms in Spanish and Basque), the interpretation we get is that *she noticed a hole* and *arrived at the airport* at the end of the particular time interval, that is, after five minutes, which is referred to as a “delayed onset reading” (Adams, 2001, p. 107); thus, the sentences in which they occur receive Accomplishment interpretations.

4.2.2. Can Semelfactives be reduced to Achievements?

4.2.2.1. Similarities and differences

Having analyzed the properties which characterize Achievement type predicates, I will now proceed to compare them with the event class under study in this paper. As can be observed from the various examples of Semelfactives and Achievements given above, both event classes share the features of dynamicity and punctuality (even though, as said before, Semelfactives understood as a series of punctual events are not punctual in their strict sense). What is more, combined with the verb *finish* (22), which is typical of durative telic predicates, the interpretations pure English and Spanish Semelfactive predicates obtain are considered to be the result of reinterpretation which changes the nature of the predicate, as the situation described is now an Accomplishment (23):

- (22) English: Sasha **finished coughing**.
 Spanish: Sasha **terminó de toser**.
 Basque: Sashak **eztulka egiten bukatu zuen**.
- (23) English: Sasha **finished drawing the picture**.
 Spanish: Sasha **terminó de pintar el dibujo**.
 Basque: Sashak **marraskia margotzen bukatu zuen**.

Notice that in Basque, the combination of the Semelfactive *cough* and the verb *finish* does not describe the end point of the coughing event or the duration of the event itself; it describes the result of another action, and that result is coughing. In English, as well as in Spanish, such interpretation is only obtained by modifying the verb: *Sasha ended up coughing* and *Sasha terminó tosiendo*, respectively.

Moreover, as observed in (11), Semelfactives are only compatible with the durative verb *stop* when they are understood as a series of punctual events, that is, when they bear an activity reading. Additionally, Semelfactives can also be modified by *in* adverbials (24), but in the same way as Achievements, when this is the case, the situations described constitute Accomplishments, including a preliminary stage and the culmination of the event (Kearns, 2011). Thus, this telicity test does not seem to be enough to determine whether a predicate is telic or not; what we can see is that Achievements and Semelfactives behave in the same way and are reinterpreted as Accomplishments when duration, either through grammatical aspect or adverbial modification, is introduced:

- (24) English: I sneezed **in two seconds**.
 Spanish: Estornudé **en dos segundos**.
 Basque: Doministiku egin nuen **bi segundutan**.

Nevertheless, in none of the examples illustrated above do Semelfactives seem to cause any change of state or result, unlike Achievements, which is the reason why the latter are considered to be telic (together with the fact that they denote an event with an inherent endpoint). When somebody *knocks at the door*, *sneezes*, *rubs something*, *blinks* etc. the world is exactly the same as it was before the action took place, it remains unchanged. In contrast, when somebody *dies*, *finds something*, *arrives somewhere*, etc.

the world is no longer the same; a result is produced, regardless of its degree of importance.

Even more, the structures which characterize Semelfactives and Achievements differ considerably. As Rothstein (2004, 2007, 2008) explains, Achievements denote near-instantaneous changes from P to \neg P or vice-versa. Let us consider, for instance, (19a): A change of state from being alive (P) to actually not being alive (\neg P) takes place. Thus, only two instants participate in the event: the last instant *i* at which P holds and the first instant *i'* at which \neg P holds (Rothstein, 2007); that is to say, the last instant in which she is alive, and the first instant of her being dead, respectively. Semelfactives, however, do not seem to denote near-instantaneous changes from P to \neg P. Moreover, the fact that Semelfactives are full-cycle resettable shows they do not entail any end state, as if they did, they would not be able to return to the initial situation once and again (Adams, 2001). Take, for example, a canonical Achievement such as the one in (19a). Clearly, a change from P to \neg P is expressed, and consequently a result: that she is no longer alive. She cannot die more than once; an inherent end-point is required. In contrast, when we say *she winked*, for instance, no result state is implied, as she could have winked over and over again.

However, even though Semelfactive predicates do not denote any event of change, they can, in some contexts, be understood as involving a terminal point beyond which the process cannot continue, thus behaving as telic. This is illustrated in the example provided by Rothstein (2004): “*Mary **winked at twelve o’clock** to remind me to make the phone call*” (p. 184). As she explains, the modifier makes prominent a reading in which a single wink occurs, and surrounds the point in time indicated. With atelic predicates (e.g. Activities), the punctual adverb does not describe the action as occurring at a single moment in time, it rather has an inchoative reading. Consider the event *Mary **walked at twelve o’clock***. She began walking at twelve o’clock, the action was not finished at that time. Thus, *walked at twelve o’clock* is an atelic situation, whereas *winked at twelve o’clock* is telic. I will go back to this contrast in section 4.2.4.

4.2.2.2. The bounded nature of Semelfactives

At this stage, I find it relevant to introduce the notion of (un)boundedness, which has to be distinguished from (a)telicity. According to Kearns (2011), telicity is a specific sort of boundedness, the latter being understood as the property of having an endpoint

expressed by any means. Accordingly, Adams (2001) places telic events as a subset of bounded events, having an endstate usually entailing a temporal end. Under Depraetere's (1995) approach, by contrast, "a sentence is bounded if it represents a situation as having reached a temporal boundary, irrespective of whether the situation has an intended or inherent endpoint" (cited in Adams, 2001, p. 134). Thus, he suggests that Achievements and Semelfactives are both telic predicates as he makes no distinction between eventualities which imply a change of state and those which do not. Since pure Semelfactives have no duration, they cannot have a temporal end. Nevertheless, I suggest that they are bounded in the sense that they have a natural endpoint (which also makes them telic, though not events of change), as will be explained in section 4.2.4. However, as Adams (2001) argues, they have to be distinguished from Achievements, as each predicate owes its bounding nature to different factors. Observe the following example:

(25) English:

- a. The teacher **winked**. *Semelfactive*
- b. Somebody **broke** his shoulder. *Achievement*

Spanish:

- a. La profesora **guiñó el ojo**. *Semelfactive*
- b. Alguien se **rompió** la espalda. *Achievement*

Basque:

- a. Irakasleak **keinu egin zuen**. *Semelfactive*
- b. Norbaitek sorbalda **apurtu zuen**. *Achievement*

Both situations are bounded, as they entail an endpoint; The acts of winking or breaking cannot possibly be understood without an end. Yet, as mentioned, these predicates are bounded in different ways: Semelfactives are bounded due to the conceptual shape of the event; they are self-contained (Adams, 2001). In other words, unlike Achievements, a Semelfactive will always be bounded regardless of the context, and, accordingly, regardless of its arguments. Consider, for instance, the predicate *wink*. The event stops right when the eye opens quickly after being closed. In the same way, the action of coughing stops when the air has already been expelled and the consequent noise has already been produced. The events denoted by a Semelfactive have a conventional

shape with conventional beginning and end points. In the case of Achievements, it is their formal structure which makes them bounded (Adams, 2001); the fact that they consist of the last instant i at which P holds and the first instant i' at which $\neg P$ holds. The predicate *break*, for example, does not have a conventional shape, it can take different forms depending on the context; it is not the same to break a glass or a leg, for instance. Nevertheless, it will always imply a near-instantaneous change from P to $\neg P$.

4.2.3. S-cumulativity: Fundamental property of atelic predicates

A more accurate distinction between telic and atelic predicates can be drawn from the notions of cumulativity and S-cumulativity. Actually, this section will be devoted to developing these two notions, with the aim of better understanding the relationship between Semelfactive predicates and the other event type classes at issue in the present paper. Some of the examples given below are based on the ones provided by Susan Rothstein (2004).

Atelic predicates are characterized by denoting events constructed via *S-cumulativity* or *S-summing*, which is based on Krifka's (1986, 1989, 1992, 1998) idea of *cumulativity*: "A predicate P is cumulative if it has at least two distinct entities in its denotation, and for any x and y in P , their sum is also in P " (cited in Rothstein, 2004, p. 8). Let us begin by considering the pair of sentences below:

- | | | |
|------|---|--------------------|
| (26) | a. John wept . | <i>Activity</i> |
| | b. Mary discovered two secrets . | <i>Achievement</i> |

In Krifka's terms, the predicate *wept* is cumulative, as when adding two events of weeping, the result is still in the denotation of the predicate. In contrast, the sum of two events expressed by (26b) is not in the denotation of discovering two secrets, but four. Therefore, *discovered two secrets* is non-cumulative. There seems to be a correspondence between cumulativity and atelicity, as *weep* and *discover two secrets* are atelic and telic situations respectively. Note that the arguments are, in some cases, crucial when characterizing a predicate as (a)telic, such as in (26b). Provided that cumulative predicates are atelic, we would expect them to be compatible with *for* phrases, and that is exactly what occurs. Activities and States are cumulative, atelic, and felicitous with *for*

adverbials. In the same way, Achievements and Accomplishments are normally anomalous with *for* phrases, as they are non-cumulative, and hence, telic.

Consider now, however, the set of sentences below presented by Rothstein (2004, p. 233):

- (27) a. Stacy ate two chocolate bars.
- b. Stacy ate at least two chocolate bars.
- c. Stacy ate a lot of chocolate bars.
- d. Stacy ate many chocolate bars.

(27a) is non-cumulative, and therefore, and as expected, anomalous with *for* adverbials. Nonetheless, the other three sentences are cumulative, and still they are infelicitous when combined with *for* phrases. Thus, cumulativity alone does not seem enough to explain atelicity.

Rothstein (2007) explains this fact by considering the result of adding two events not only as a plurality, but as a new singular event, formally referred to as S-cumulativity: “A predicate X is S-cumulative if any two distinct instances of X related by the 'R' relation can be summed, and the sum formed into a singular entity which is itself in the denotation of X” (p. 7). This property is what distinguishes telic from atelic predicates. For instance, two events of weeping can be put together to denote a single event; John might have been weeping from 2 to 3 a.m. and from 3 to 4 a.m., and the sum of both events result in a single event: John has been weeping from 2 to 4 a.m. The S-cumulativity operation does not apply in the case of telic predicates, as can be seen in (26b): two distinct events in *discover two secrets* cannot be put together to form a new singular event in the denotation of *discover two secrets*. Why?

For S-cumulativity to be possible, the events must be temporally adjacent (which stands for the ‘R’ relation mentioned in Rothstein’s definition), and must have the same participants (Rothstein, 2004). Telic predicates are predicates of change from α to β : An Accomplishment denotes a change from ψ to ϕ , where ψ entails $\neg\phi$ (Rothstein, 2004). Achievements, on their part, denote changes from P to \neg P, consisting of only two instants, something which makes temporal adjacency impossible in the case of such predicates, since before the second event happens (providing that the participants remain the same), there must be a change back from \neg P to P again (Kamp, 1979, cited in Rothstein, 2004, p. 188). This is, for instance, illustrated in the Achievement in (26b): *Mary discovered*

two secrets. It cannot be immediately succeeded by another event of the same kind, since before the culmination of the Achievement, there must be a moment in which Mary did not know or was trying to discover a secret. So, S-cumulativity can apply with Activities and States, but not with Accomplishments or Achievements, since the events denoted by those predicates of change P can be succeeded immediately by another event in P, as in *The sky darkened between 2 p.m. and 4.p.m.* (Rothstein, 2004, p. 189).

4.2.3.1. Entailments from the progressive to the perfective

As we saw in section 4.1.1., one of the tests used to distinguish telic from atelic predicates is to observe whether there is an entailment from the progressive to the perfective or not. This phenomenon does not apply with a pure Semelfactive, since the progressive requires them to be interpreted as Activities. In the case of Achievements (28a), their corresponding progressive sentence does not entail the same sentence in the perfective, whereas with Activities (28b), the entailment actually goes through:

- (28) a. Claire is dying **does not entail** Claire has died.
b. Claire is running **entails** Claire has run.

Actually, S-cumulativity is the reason why this entailment is induced by some event classes and not by the others. Since Activities are derived via S-summing, they denote sets of events inside which the minimal events form only a small subset. Events denoted by *run*, for instance, must contain at least a minimal event e' which is also in the denotation of the predicate, thus the entailment in (28b) arises, since as proposed by Dowty (1979), the activity-type entailment can only happen if the event which makes *Claire is running* true is bigger than a minimal event (cited in Rothstein, 2004, p. 190). By contrast, in the case of *Claire is dying*, events in the denotation of the predicate are not constructed via S-cumulativity, which is the reason why these verbs do not have such entailment.

4.2.3.2. S-summing and Semelfactives

Having analyzed such a necessary property of atelic predicates (i.e. S-summing), let us now consider its function regarding Semelfactive predicates. In other words, how is S-cumulativity relevant for our classification of Semelfactives?

Since a pure Semelfactive predicate denotes a minimal event which is not iterated, S-cumulativity is certainly impossible to apply, a reason why Semelfactives denote telic situations. Nevertheless, if the minimal event is iterated, that is, in the case of Semelfactives which denote a series of punctual events or which have an Activity reading, the S-summing operation goes through. As a result, the progressive entails the perfective form of the verb when referring to the iteration of minimal events, since, they are derived via S-cumulativity, inside of which each minimal event constitutes solely a small subgroup (in the same way as with Activities). Still, as argued before, we cannot consider Semelfactives and Activities to be identical. As Rothstein (2008) points out, “we use S-summing to form extended activity events recursively out of minimal ones” (p. 46). However, not all extended activity events have the same interpretation:

(29) English:

- a. She swam for one hour. *Activity*
- b. She coughed for one hour. *Semelfactive*

Spanish:

- a. Ella nadó durante una hora. *Activity*
- b. Ella tosió durante una hora. *Semelfactive*

Basque:

- a. Hark ordubetez igeri egin zuen. *Activity*
- b. Hura ordubetez eztulka aritu zen. *Semelfactive*

An extended activity event of swimming or coughing is formed out of minimal events denoted by their corresponding predicates. However, unlike in the case of *swim*, the minimal events denoted by *cough* are naturally atomic.

4.2.4. Natural atomicity of Semelfactives

As stated by Rothstein (2004), “the atoms of a set P are the smallest possible units of P, then there should be no parts of elements of P which are also in P” (p. 160). This characteristic is what differentiates mass from count nouns, as the latter are atomic, whereas the former are not; if we divide a *lamp* in two different parts, it will no longer be a *lamp*. However, if we divide *salt*, each quantity will still be in the denotation of the noun. What is more, a noun may or may not be naturally atomic, which means that what counts as an atom of the noun may or may not be context-dependent (Rothstein, 2004). This is illustrated the examples Rothstein (2004) gives: *boy* is naturally atomic whereas *fence* is not, as the world tells us what constitutes a unit of the former, but the latter can have a different unit structure depending on the context; put differently, *fence* lacks the internal individuating structure *boy* has.

In the same way as nouns, events can also be naturally atomic, which implies that its beginning and endpoints are conventional, determined by “the trajectory which defines the event” (Rothstein 2007, p. 186), and non-context dependent. That is precisely what we mean by saying that Semelfactives are naturally atomic. Recall our example (29): The difference between the predicates *swim* and *cough* arises merely from the knowledge of the world. We know that the predicate *swim* is composed by different singular events which, placed together, constitute the act of swimming. However, these singular events overlap (if they would not, we would no longer be referring to a swimming event), hindering their identification. Take now the canonical Semelfactive *cough*. The set of minimal events in its denotation are easy to identify (i.e. each cough), they can never overlap and their structure unit is given by the world; there are conventional beginning and end points associated with the event of coughing. Thus, when the minimal events are lexically accessible, as in the case of the Semelfactive, it means that the predicate is denoting an atomic set of events (with the progressive) (Rothstein, 2007). In other words, and as formally formulated by Rothstein (2004):

An activity predicate P will denote a set of events P, and will contain a subset P_{\min} , which is the set of minimal events in the denotation. If a predicate has a Semelfactive use, then there will be a natural atomic function which picks out the set P_{\min} , and P_{\min} will be an atomic set. If the predicate does not have a Semelfactive use, then P_{\min} will be a singular set and not an atomic set, containing minimal singular but overlapping entities. (p. 186)

The natural atomic nature of Semelfactives is the source of many linguistic distinctions found between this aspectual class and Vendler's Activities. One of these differences can be observed when modifying the two event classes with counting adverbials:

(30) English:

- a. She swam **once/twice**.
- b. She coughed **once/twice**.

Spanish:

- a. Nadó **una vez/dos veces**.
- b. Tosió **una vez/dos veces**.

Basque:

- a. **Behin/birritan** igeri egin zuen.
- b. **Behin/birritan** eztulka egin zuen.

As can be seen, in the case of Activities (30a), only the extended event can be counted, whereas the Semelfactive with an activity interpretation (30b) is ambiguous between the function of counting the whole extended event (where the predicate denotes P) and each minimal atomic event (where the predicate denotes P_{\min}) (Rothstein, 2004, p. 187). Differences are also found when combining the aforementioned kind of predicates with *in* adverbials:

(31) English:

- a. She swam **in five minutes**.
- b. She coughed **in five minutes**.

Spanish:

- a. Ella nadó **en cinco minutos**.
- b. Ella tosió **en cinco minutos**.

Basque:

- a. Hark **bost minututan** igeri egin zuen.

b. Hark **bost minututan** eztulka egin zuen.

Normally, *in* adverbials require a culminated process, which is the function it fulfils in the case of (31a), since those sentences would normally be understood as the event of swimming lasting the whole span of time indicated (i.e. five minutes). Nevertheless, (31b) has an ingressive interpretation; she had been trying to cough for five minutes, but she actually coughed after five minutes had passed. What is more, contrasts are also found when iterating each predicate:

(32) English:

- a. ? She swam **once and again**.
- b. She coughed **once and again**.

Spanish:

- a. ? Nadó **una y otra vez**.
- b. Tosió **una y otra vez**.

Basque:

- a. ? **Behin ta berriz** igeri egin zuen.
- b. **Behin ta berriz** eztulka egin zuen.

As Schäfer (2011) postulates, and as illustrated in (32b), a temporal gap is required between each event in order for the Activity to be iterated. Thus, the above sentences cannot be understood as her being swimming from 1 a.m. to 5 a.m., for instance. Actually, the native speakers I have consulted have found those sentences to be anomalous. In the case of naturally atomic events (32a), on the other hand, a break between the individual events is not necessary for their iteration; she might have either been coughing from 1 a.m. to 5 a.m. once and again (the extended activity is iterated), or she might have coughed only once at 1 a.m., again at 2 a.m., and so on once and again (the minimal atomic event is iterated).

Finally, punctual adverbs are also employed to identify atomic events, as stated by Moens (1987). Hence, as expected, contrasts emerge:

- (33) English:
- a. ? She swam **at that instant**.
 - b. She coughed **at that instant**.

Spanish:

- a. ? Nadó **en ese instante**.
- b. Tosió **en ese instante**.

Basque:

- a. ? **Une horretan** igeri egin zuen.
- b. **Une horretan** eztulka egin zuen.

(33a) requires us to interpret the sentence as follows: She began swimming at that instant; it has an inchoative reading. Thus, since the punctual adverb is not describing the action as occurring at a single moment in time, it is not an atomic, but an extended event (Moens, 1987). The whole coughing event (naturally atomic event), however, can only occur at the indicated instant (33b).

All the above mentioned dissimilarities can be attributed to the natural atomic nature of Semelfactives. Moreover, I would like to point out that, even if the atomic nature of Semelfactives is universal across languages, cross-linguistic variation exists with regards to the way each language expresses the contrast between minimal events and extended events, as seen before; for example, whereas English, Spanish and Basque conveys it via an “ambiguous predicate” (Rothstein, 2007, p. 187), Russian and Hungarian make use of two different predicates, each one performing the equivalent function.

4.2.4.1. Reformulation of the telicity principle

As shown throughout the paper, telic predicates cannot be defined as predicates involving change or simply as predicates constructed via S-summing. Based on the assumption that Semelfactives, but not Activities, denote a set of naturally atomic entities, what determines the telic nature of predicates seems to be related to atomicity (Rothstein, 2008). This claim is illustrated by Rothstein (2004) as follows: “A VP is telic if it denotes

a set of events *X* which is atomic, or which is a pluralization of an atomic set (i.e. if the criterion for individuating an atomic event in *X* are fully recoverable)” (p. 158).

Activities, as well as States, are atelic, since they do not denote atomic sets, but singular events which are joined together by means of S-summing. In contrast, Achievements, in the same way as Accomplishments, are telic because they do denote atomic sets, even if the basis for atomicity is not the same as the one of Semelfactive predicates. See the Achievement below:

- (34) English: I left the house at 4 p.m.
Spanish: Me fui de casa a las cuatro de la tarde.
Basque: Etxetik joan nintzen arratsaldeko lauretan.

The basis for atomicity in the case of Achievements is provided by their structure, as, independent of the context, the beginning and endpoints of events of change correspond to the starting and endpoints of the change itself (Rothstein, 2007). The predicate *leave* is a predicate of change from *P* (being at home) to $\neg P$ (not being at home), thus, as analysed before, consisting of the last instant *i* at which I am at home and the first instant in which I am no longer there. Therefore, atomic, individual changes are clearly singled out. On the other hand, the atomic nature of Semelfactives, which is somehow related to their boundedness, is due to their “natural salience and individuability of the elements which count as atoms” (Rothstein, 2007, p. 189); due to the fact that they have natural beginning and endpoints, as developed in the previous lines, which could be related to their bounded nature as was put forward above.

Therefore, as claimed at the beginning of the present section (4.2.), Semelfactive predicates behave as telic predicates (as they denote sets of naturally atomic events), an assertion which accounts for their telic readings when combined with punctual modifiers such as *at* adverbials. Nevertheless, they cannot be reduced to the category of Achievements, as they are atomic, and therefore telic, in different ways.

5. Conclusion

This paper has attempted to prove that Semelfactives are a valid independent aspectual class which cannot be reduced to any other.

I have argued that a distinction has to be made between pure Semelfactive verbs, which are instantaneous and limited in distribution (i.e. they cannot be combined with duration predicates and adverbials), and Semelfactive predicates with a derived Activity reading, which turn out to be felicitous with such expressions of duration. Moreover, in the progressive form, Activities denote sets of events constructed via S-summing, whereas Semelfactives denote sets of naturally atomic events. Indeed, data provided by Katalin (2011) shows how not all Semelfactives can have an iterative interpretation in English. Also, the fact that two different predicates are used in languages such as Russian and Hungarian supports the idea that, even if they are related, Activities and Semelfactives cannot be considered to be the same aspectual class.

The paper has also examined the relationship between Semelfactives and Achievements. The grammatical behaviour of these two aspectual classes shows them both to be punctual, since they are not compatible with durative phrases unless they are reinterpreted as Accomplishments. In addition, I have claimed that pure Semelfactive predicates are telic, as well as Achievements, since they both denote an event with an inherent endpoint. However, as Rothstein (2004, 2007, 2008) shows, they do not have the same structure; while Achievements imply a change from P to \neg P and produce a result, Semelfactives do not denote any near-instantaneous changes. They are telic due to different factors: whereas in the case of Achievements the already mentioned structure of change makes them telic, the telicity of Semelfactives is explained by their bounded, or more precisely, naturally atomic nature, which Achievements lack. In other words, Semelfactives, unlike Achievements, will always denote an event with the same natural beginning and endpoints, regardless of the context; that is what makes them telic, though not events implying a change or outcome.

So, I propose that each of the three aspectual classes under study in this paper has its own properties, including Semelfactives, shown in the following table:

Table 2. Classification of Semelfactives, Activities and Achievements.

	[+/- static]	[+/-durative]	[+/- telic]	[+/- atomic] ³
Semelfactives	-	-	+	+
Activities	-	+	-	-
Achievements	-	-	+	-

³ Understood as being naturally atomic.

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